



# **SPECIFICATION**

## **[Electronic Version 1.2.8]**

### **“APPARATUS AND METHOD FOR PROPELLING THE CORRESPONDING BILLIARD OR SNOOKER CUE BALL OVER ANOTHER OBJECT BALL OF SIMILAR SIZE” (Hereinafter, referred to as the “Jump Bridge”)**

#### **Background of Invention**

[0001] I William H. Walton, a United States citizen, residing at 32 Sun Valley Court, Alexander, NC 28701, otherwise identified as Customer #39573 wish to submit my invention for United States patent protection for the above named Invention

[0002] The “Jump Bridge” primary use is to aid pool player(s) in the process of executing a particularly difficult pool shot hereinafter referred to as a “jump shot”.

[0003] The jump shot comes into play when a pool player is left without the ability to make direct contact with the next object ball. In this environment the player has to decide on his next course of action. The player must either play a rail first kick shot, masse around, or jump over any impeding ball(s), and then make first contact with the correct object ball.

[0004] Players electing to make a “jump shot” over impeding ball(s). Must execute the shot with great skill to avoid any cue ball foul(s). Great skill is required to land the jumped ball just in front of object ball. Any jumped ball that hits to far back, or strikes the object ball on its top, side, or angle, may result in a foul levied against the shooter.

[0005] All fouls resulting from the played shot will result in loss of turn. In this given situation the incoming player receives the cue ball in hand. The incoming player, at his discretion, can then place the cue ball anywhere on the tables playing surface. A skilled player will often win the game given this advantage. More importantly, in many games played today the players will intentionally play a safe shot leaving the oncoming shooter without a direct shot at the next object ball. This type of play is legal. It is prolific in modern billiard play, and in most cases the only way out is to try to execute a jump shot correctly.

[0006] Historically, pool strokes have been defined as “Draw” (cue tip contact with cue ball below center on low left, low center, or low right), “Center Ball” (cue tip contact with cue ball at center, center left, or center right), “Follow” (cue tip contact with cue ball above center high left,

high center, or high right), or "Masse" (cue stick and tip elevated at approximately 90 degrees above the cue ball striking down with extreme left, off center, or right hand spin).

[0007] The demand for a player to execute a "jump shot", in terms of Billiard History, is a relatively new concept. The shot requires its own unique high center ball with severe angled downward stroke. The player addresses the center alignment of the cue ball and object ball. The player then estimates travel distance required to make a correct contact between the cue ball and object ball. Dependent upon the distance, the player then calculates the best elevated cue stick angle to strike the cue ball. The most prominent angle is approximately 45 degrees. A short "jump shot" will require a greater angle and a long "jump shot" will require a lesser angle.

[0008] As the player judges the correct angle, and cue stick alignment. The player will aim the cue tip to contact the cue ball below the top center mark. This stroke may be best defined as a jabbing motion, exploding onto the cue ball, forcing the cue ball too jump up and forward. Within the same stroke the cue shaft must be quickly retrieved back to the starting point. This is necessary in order to avoid interference and cue ball foul. Overall, the "jump shot" stroke is a short powerful stroke.

[0009] In recent years, there have been numerous televised trick shot, and Pool events. The TV networks, Tournament Sponsors, and professional players elected to make several time saving rule changes. The one rule change most responsible for the now prolific "jump shot" is referred to as "Ball In Hand". This one simple rule has forever changed the games of "Nine Ball" and "Eight Ball" for better or worse.

[0010] As a direct result of this "Ball in Hand" rule. Professional players, pool shooting enthusiast, and generation of players yet to come will have to master the "Jump Shot". My invention will assist all players regardless of their skill levels to remain competitive in the sport.

[0011] Relating to the newness of the "jump shot" phenomena the industry has not provided shooting aid to address the specialties of the shot. Currently, the marketplace only known shooting aid to help execute jump shots [that I am aware of], is limited to shortened cue sticks with hard tips. These sticks are usually about 40" in length to meet current legal standards. The players find that the shorter cue sticks help them to develop a shorter stroke while maintaining a higher shooting angle. Players not having access to these special cue sticks are forced to execute the "jump shot" using whatever cue is available.

[0012] No matter what cue stick is used, players must practice finding the various lofts and distances they create in order to execute the "jump shot". During practice the player must then commit the angle and distances they create to memory. Hopefully the player will make the correct angle recall during a shooting match. Practice time is the cause of most equipment damage, and my invention, the "Jump Bridge" is designed to reduce this equipment damage.

[0013] I have over 45 years experience shooting pool. I have mastered all the shots and strokes required to play or teach this sport. However, I have never attempted to master the "jump shot" because of the damage it can do to the other persons pool tables and cue stick equipment.

[0014] This is where I first got the vision to invent the "Jump Bridge" and shooting process. AND, in doing so, I have tried to design the "Jump Bridge" to benefit all players regardless of their skill levels. Through observation I have incorporated many jump shot attributes into the shooting mechanisms of the "Jump Bridge". The means to offer different angle(s) for long and

short "jump shots. Complete breakdown or assembly without the use of tools giving player(s) the option of transporting the "Jump Stick" to their various pool playing venues. Restricted cue sticks travel. Reduced cue tip trauma to pool table surfaces. Adjustable rear stand and wide front stand for shot making stability and ball clearances. Adjustable positions for the bridge head which houses the cue stick shooting aperture and sighting mechanism. Placement flexibility in playing situations having a variation of impediments (balls) effecting location of the "Jump Bridge". AND, most importantly the use of the invention will offer the owners of pool tables and pool room establishment's protection to their equipment.

[0015] In my review of patent files shown in Field of Search CCL/473/2 and CCL/473/42 I tried to identify any similarities their patent had verses my application. Any patents prior to 1 990 do not even deal with any resemblance of a jump shot mechanism because it was not a factor in those days. Except for those persons that were playing Texas Express Rules. Almost all "Bridge" related patents primarily deal with a device that makes it easier to shot long shots over impeding balls located in front, or beyond the bridge, or to aid in the contact of a cue ball in someway impeded from normal stroke play. Some could have been used to hit a cue ball at a high angle but most bridges offered only elevated shot making using any particular stoke or aim. Almost all predate the ball in hand rule. None had mechanism for establishing fixed jump shot angles, and none had mechanisms to create a multitude of predetermined jump shot angles. Overall, bridge aids reviewed still rely on the player to find the correct angle to contact the cue ball regardless of the stroke their using. The only similarity that we do share is the insinuation that we are a "Bridge", and we can elevate shooting position over impediments.

[0016] I have also searched the various billiard magazines for mechanical jump shot aids. No where have I found any aid specifically tackling the jump shot other than the short cue sticks mentioned in my earlier observations.

[0017] I did find one very good article written by a world class champion on how to accomplish the "Jump Shot". The article involved only a player using a cue stick. But all the mechanisms explained were the same as I have addressed herein.

[0018] The one observation of interest was a particular shooting aid [#1 ,299,720] issued 4/8/1919, to Harrison], for an upright "Masse" shot. Looking at it and knowing how the shot is played explains to me why it was never a commercial success.

[0019] My apparatus has no similarity to this patent. However, I would like to point out it was awarded as an aid to perform a given stoke or type of shot, a "Masse". My patent application is requesting the "Jump Stroke" be recognized in a similar manner.

[0020] Out of all the patents searched. I have not found one patent specifically identifying, or designed to aid a shooter trying to complete a legal jump shot. Overall, bridge aids reviewed still rely on the player to find the correct angle to contact the ball regardless of whatever stroke their using. My invention can be adjusted to produce specific shot angles. Each shot position offers a slightly different angle from one setting to the next. Nothing I have seen to date shows the rear section of any bridge aid having the ability to be adjusted in height. Nothing I have seen to date reflects any method of reducing any damage to the playing equipment, and I have seen nothing offered to aid players in the practice of jump shots.

[0021] The manufacturing process of my invention is in its early stages of development. I envision the use of tubular metals combined with high strength plastic and possibly some rubberized handle coatings.

## **Summary Of The Invention**

[0023] In accordance with one form of this invention there is provided an apparatus and method for propelling a Billiard, or Snooker cue ball over another object ball of similar size. The apparatus, and its incorporated components, hereinafter referred to as the "Jump Bridge", being used in unison with a pool cue, and powered [with finesse] by one operator.

[0024] In accordance with another form of this invention there is provided an apparatus and method when the rear stand assembly is removed. The remaining front stand assembly provides the "most common" shooting angle of approximately 45 degrees. This angle can be further adjusted by shortening or lengthening the front stand or front stand handle assembly mechanism.

[0024.1] An optional feature of the summary of the invention is that the front and rear stand assemblies incorporate the use of removable height extender. These attachments can incorporate interchangeable and variable length designs. The attachments when used will assist the operator in the clearance of any impediment balls located on the playing service, and/or they could be used to elevate the Jump Bridge and change the apertures shooting angle.

[0025] In accordance with another form of this invention there is provided in the apparatus and method an adjustable rear stand assembly, when used in unison with the front stand, has more than one fixed elevation position. The primary function of which is to provide clearance from impeding balls located directly below the front and rear handles assemblies. Each of these elevation positions transfers a graduating angle adjustment to the bridgeheads shooting aperture. These positions offer the operator the sharpest downward angles for the "shortest" jump shots combinations that can be taken. The rear stand also aids overall bridge stability, and/or provide a wider range of ball clearance.

[0026] In accordance with yet another form of this invention there is provided an apparatus and method to combine the use of the adjustable front stand and the multi positioned elevated rear stand. With both handle assemblies connected they offer multiple elongated positions, and each of these positions transfers a graduating angle adjustment to the bridgeheads shooting aperture. Positions offered assist the operator in executing "intermediate" angled jump shots, add to the bridges stability, and/or provide adequate ball clearances.

[0027] In accordance with yet another form of this invention there is provided in the apparatus and method a momentum braking insert, with memory conforming elasticity, located on the inside collar of the cue stick aperture cylinder. At the upper limits the cue stick is allowed to travel through the aperture opening unimpeded. As the shaft moves forward a compression of the aperture seal take place evenly diminishing impact of the cue tip to pool table surface.

[0028] In accordance with one form of this invention there is provided in the apparatus and method an adjustable bridgehead which allows the cue stick aperture and aiming channel mechanism movement of 360 degrees of rotation, up and down, and left or right of center the

center axis. A requirement for proper positioning of the "Jump Bridge" onto playing surface amongst object ball, and other impediments.

[0028.1] A optional feature of the summary of the invention is the variation of movements in the apparatus, and an assortment of adjustable bridgehead assembly mechanism that provides up/down, left to right, and 360 degrees of rotational movement of the cue stick aperture, and the aiming channels. The mechanisms providing the directional movements can incorporate any form of fixed position, adjustable swivel, or ball axis configuration that provides a fixed position setting to lock the bridgehead, cue stick aperture, and aiming channels into the desired shooting angle. This provides the operator with the ability to adjust the shooting angle regardless of the positioning of the Jump Bridge on the tables playing surface. .

[0029] In accordance with another form of this invention there is provided an apparatus and method having an aiming channel located at the end of the bridge head directly inline, and above the cue stick aperture. The operator will use this aiming channel to determine exact center of the cue ball. A critical observation required to execute the "jump shot" correctly.

[0029.1] An additional feature of this summary of the invention is having a visual aiming line located top center of the complete apparatus along the length of any handle attachments and bridge head assembly. The operator will use the aiming line as a point of reference to align center of cue ball with center of the object ball. A necessary alignment to execute the jump shot correctly.

[0029-2] Another feature of this summary of the invention is having the bridgehead designed with multiple aiming channels at the end of the bridgehead assembly. Each channels concave positioned directly above center of the shooting aperture. This would provide the operator with the ability to adjust his aim correctly, from shot to shot, regardless of the position and angle of the bridgehead.

[0030] In accordance with one form of this invention there is provided an apparatus and method whereby a cue stick collar accessory can be fastened onto a cue stick shaft limiting travel through the cue stick aperture. Thus limiting cue tip contact with the table playing surface.

[0031] In accordance with one form of this invention there is provided an apparatus and method whereby the operator through practice can predetermine acceptable travel distances of a jumped ball in relationship with the angle setting used. By knowing these distances and their corresponding jump Bridge setting the operator can duplicate the jump shot with consistency during match play.

[0032] In accordance with one form of this invention there is provided an apparatus and method whereby the operator can create a multiple number of angles via position changes to the front and rear handle sliding mechanisms, or up and down movement of the rear stand elevation mechanisms.

## **OBJECT OF THE INVENTION**

[0033] It is therefore one object of this invention to provide an improved apparatus and method for propelling one object ball over other object balls.

[0034] It is another object of this invention to provide an apparatus and method which allow for both experienced, and not so experienced, pool player(s), to successfully complete a legal "jump shot".

[0035] It is yet another object of this invention to provide an apparatus and method which allows the above mentioned player(s) to complete this "jump shot with minimal or no damage to equipment.

[0036] It is further another object of this invention to provide an apparatus and method which can be easily assembled or unassembled for convenient transportation.

[0037] It is still another object of this invention to provide an apparatus and method which offers a variety of operating positions allowing a properly executed "jump shot".

[0038] It is yet another object of this invention to provide an apparatus and method which provides a reduction of the forward momentum of the cue stick after required contact with the cue ball has taken place.

[0039] It is therefore another object of this invention to provide an apparatus and method which, via movement of assembled components, will create various angles of contact by the cue shaft to the object ball.

[0040] It is another object of this invention to provide an apparatus and method which can be offered in many sizes, shapes, materials, and retrofitted to existing billiard/pool equipment.

## **Detailed Description**

[0041] Manufacturing and marketing of the jump Bridge will provide for fully packaged and fully assembled unit with use instructions.

[0042] The assembly of the Jump Bridge (FIG. 1 & FIG. 8) starts with the "front stand" assembly (FIG. 2) by connecting the front bridgehead (23) to the rear bridgehead (24) by aligning the bolt holes (60) and then placing the drop bolt (25) through the hole and tightening the wing nut (26). Assemble the aperture seal (22) into the cue stick aperture cylinder (21) and place completed aperture assembly (FIG. 6A) into the front bridgehead hole (61). Slide front bridge (29) onto the round end of the rear bridgehead (24), align the upper and lower keyways (66 & 67), slide the locking ring (31) onto the rear threaded portion of the bridgehead (72) and tighten securely. The front stand will be held firmly in place as it is compressed against the back support (64). Take the threaded end (28) of the front handle (32) and insert into the bridgeheads threaded receiver (65) and tighten. Saving the last turn to align the triangle foot pad mounting hole (27) so that it is in the center down position, mount the triangle foot pad (38) and front stand assemble is complete (FIG. 2).

[0043] The "rear stand" assembly (FIG. 3) will be factory assembled starting with the internal placement of the spring loaded locking button assemble (39) into the front locking position (74) located in the rear stand tube (40). The rear stand butt pad (42) will be press fitted into the end of the rear stand tube (40). The rear stand elevation tube (43) will have the top and bottom pads (44 & 45) press fitted into each end (70 & 71), and the elevation tube will then be inserted into the

through hole mounting position (69) and secured in place by placing the wing nut (41) into the drilled and tapped mounting hole (59).

[0044] Both units can now be joined by placing the front end of the rear stand tube into the end of the front bridge stand completing the joined assembly FIG. 1 & FIG. 8). For manufacturing packaging the fixed setting will be positions (33 & 46). The operator can change and set the desired length by using positions (34, 35, 36, or 37), and/or the elevation settings of (47, 48, 49, or 50).

[0045] Faced with a jump shot situation the operator completes his shot evaluation, chooses the angle settings (Example settings AP1 & HP1), determine proper table position for placement of the assembled unit, insert the cue stick through the shooting aperture, make any final position adjustments, with one hand holding the Jump Bridge firmly positioned in place, and the other hand holds the cue stick and provides the jump Shot Stroke. Operator must make the shot and then quickly lift up and remove the jump Bridge and cue stick from the table surface.



# Figures

## DRAWINGS

(Jump Bridge Assemblies)

FIG. 1 Jump Bridge – Front and Rear Stand Assembly – Bridgehead UP and Down view

FIG. 2 Jump Bridge - Front Stand Assembly – Bridgehead LEFT and RIGHT view.

FIG. 3 Jump Bridge - Rear Stand Assembly - Side View.

FIG. 4 Front Bridge Stand - Frontal View, Locking Ring, Interchangeable Leg Extenders.

FIG. 5A Bridgehead Front - UP and DOWN configuration as viewed from top.

FIG. 5B Bridgehead Back - UP and DOWN configuration as viewed from top.

FIG. 5C Bridgehead Front – LEFT and RIGHT configuration as viewed from top.

FIG. 5D Bridgehead Back – LEFT and RIGHT configuration as viewed from top.

FIG. 6A Cue Stick Aperture Cylinder and Aperture Seal - Side View.

FIG. 6B Aperture Seal - View from Top.

FIG. 6C Cue Stick Aperture Cylinder - View from Top.

FIG. 7A Cue Stick Practice Collar Assembly - Open Side View.

FIG. 7B Cue Stick Practice Collar Assembly - View from Top.

FIG. 7C Cue Stick Practice Collar Assembly - Assembled to Cue Stick.

FIG. 8A Complete Assembly - Bridgehead movement UP and DOWN, and Visual Aiming Line as view from Top.

FIG. 8B Complete Assembly - Bridgehead movement LEFT and RIGHT, and Visual Aiming Line as view from Top.

FIG. 9 Complete (LEFT and RIGHT) Assembly with Attachments and Collar Assembly.

FIG. 10 Complete (UP and DOWN) Assembly with Attachments and Collar Assembly.

FIG. 11 Bridgehead Assemblies adapted for mounting with pool stick components.

FIG. 12 Multiple Aiming Channel Bridgehead with rotating and locking Assembly.

### Part Numbers and Descriptions

<u>No</u>	<u>Description</u>
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- |       |                                                              |
|-------|--------------------------------------------------------------|
| 18.   | Visual Aiming Line                                           |
| 19-LR | Aperture Mounting Hole – Bridgehead left and right movement. |
| 19-UD | Aperture Mounting Hole – Bridgehead up and down movement.    |
| 20-LR | Aiming Channel [bridgehead left and right movement]          |
| 20-UD | Aiming Channel [bridgehead up and down movement]             |
| 21.   | Cue Stick Aperture Cylinder                                  |
| 22.   | Aperture Seal                                                |
| 23.   | Front Bridgehead                                             |
| 24.   | Rear Bridgehead                                              |
| 25.   | Bolt W/threaded End                                          |
| 26.   | Wing Nut                                                     |



27. Mounting Hole for Triangle Foot Pad at rear of Front Handle
28. Threaded top end of Front Handle
29. Front Bridge Stand
30. Front Bridge Stand Cushioned Foot Pads (2)
31. Front Bridge Stand Locking Ring
32. Front Handle
33. Angle Position 1 (AP1)
34. Angle Position 2 (AP2)
35. Angle Position 3 (AP3)
36. Angle Position 4 (AP4)
37. Angle Position 4 (AP4)
38. Triangle Food Pad - Rear end of Front Handle
39. Spring Loaded Locking Button
40. Rear Stand Assembly Tube
41. Ring Nut Bolt
42. Rear Stand Butt Pad
43. Rear Stand Elevation Tube
44. Foot Pad Bottom - Elevation Tube
45. Foot Pad Top - Elevation Tube
46. Height Elevation Position 1 (HP1)
47. Height Elevation Position 2 (HP2)
48. Height Elevation Position 3 (HP3)
49. Height Elevation Position 4 (HP4)
50. Height Elevation Position 5 (HP5)
51. Metal Collar - Practice Collar
52. Cue Stick Seal Protector
53. Collar Tighter Assembly
54. Cue Stick Shaft Location
55. Table Surface
56. Cue Tip
57. Cue Stick Seal Protector Bumper
58. Front Stand Foot Pads Mounting Slots (2)
59. Drilled and Tapped Hole for Rear Stand/Height Elevation Wing Nut
60. Bridgehead Bolt Hole - Attaches Front and Rear components together
- 61-LR Aiming Channel [bridgehead left and right movement]
- 61-UD Aiming Channel [bridgehead up and down movement]
62. Front Bridgehead Right Turn Stop
63. Front Bridgehead Left Turn Stop
64. Rear Bridge Stand Back Support - Opposite side of Ring Nut
65. Threaded Receiver for Threaded Front Handle
68. Ball Clearance Archway
69. Through Hole Mounting for Rear Elevation Tube
70. Drilled Hole for Bottom Foot Pad (44)
71. Drilled Hole for Top Foot Pad (45)
72. Locking Ring Mounting Threads
73. Cue Stick mounted in Cue Stick Aperture Cylinder at 45 degree angle
74. Rear Stand mounting hole (2) for spring loaded locking buttons (39)
75. Adjustable Height Extenders